December 4, 1954

Dr. Ellen K. Pine
Roswell Park Memorial Institute
Buffalo 3, N.Y.

Dear Ellen:

I am glad to hear you are so well situated now.

The world supply of neolactose at the present time is, as far as I know, zero, so I am afraid I cannot help you directly. In fact, I would delighted and indebted to get some from you if you take the time and anti-inertia to make some. In practise, altrose is made from neolactose, rather than the converse, and the latter by the epimerization of octa-acetyllactose with $AlCl_3$+PCl_5, as described in "Polarimetry, Saccharimetry and the Sugars," Nat. Bur. Stand. "Circ." C440. If you decide to go into it, I can try to scrape a few micrograms of seed neolactose cyystals from our empty vial, if this would help you.

But if your aim is to obtain an Lp^s constitutive recombinant, why do it the hard way, when you can rather easily prepare Lp^s mutants or recombinants? It is hard for me to see their relevance to the problem.

I cannot agree with you that strain K-12 shows maximal activity of intact cells at any concentration of ONPG, as you will see from my 1951 paper on kinetics and activation. Dr. Boris Rotman has been working aththe Enzyme Institute here for the past year or so on just this problem of activation. He finds that its extent varies widely according to the cultural conditions under which the cells have been prepared. You might do well to correspond with him about it, as I have not been personally concerned with lactase for several years. I do remember that K-12 will become "spontaneously activated" to a considerable degree if merely allow to stand in suspension in buffer.

Are you "on your own" on this problem at Roswell Park, or is this connected with any more general program?

Yours sincerely,

Joshua Lederberg
Professor of Genetics